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10/082.255	02/26/2002	Takehiko Nishikawa	219994US0	4102

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EXAMINER

DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,255

Applicant(s)

NISHIKAWA ET AL.

Examiner

Tamra L. Dicus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

The 112 rejections are withdrawn due to Applicant's amendments.

Election/Restrictions

1. Newly submitted claim 20 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: a method of making a porous laminate can be made by hand.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 20 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4 and 19 (new) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 does not make sense because a layer (singular) cannot comprise two additional layers (plural). Claim 19 also has a similar issue, a layer cannot further comprise a sheet. The Examiner does not know what these claims intend to encompass.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,034,268 to Sekidou in view of USPN 6,159,605 to Hanada et al. and further in view of USPN 6,197,409 to Bodager et al.

4. Sekidou provides for a laminated printing media consisting of three layers: a printing ink receiving surface, a support, and a primer bonding the first two. See col. 2, lines 43-49. The bonding layer is an adhesive. The bonding primer contains irregularities in the form of open and/or closed cells and pores, which provides the water passing property, as per instant claims 2 and 3. See col. 2, lines 61-68. This property would also permit the passage of water vapor.

5. Sekidou does teach a porous ink-receiving layer. Hanada teaches an ink jet recording sheet providing a porous ink-receiving layer (see col. 3, lines 45-50 and col. 9, lines 20-30). Hanada discovered such a porous structure provides excellent image quality by having higher water and ink absorbency, ink setting, and waterproof properties. The ink-receiving layer is bonded via adhesive to layers of film or paper. See col. 3, lines 10-35. It would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to produce a porous ink-receiving layer because Hanada provides the improvement of higher water absorbency among other qualities listed at col. 3, lines 10-35.

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6. Sekidou does not teach a release layer. Bodager, of analogous art, teaches an inkjet media which contains a substrate, water absorbing layer, and adhesive ink receiving layer. See col. 11, lines 55-56. It would have been obvious to one of ordinary skill in the art to use a release layer in addition to a substrate to provide the capability of transferring the print media to another substrate. Bodager shows the conventionality of transferring print media to permanent supports for the purpose of using in signs or banners. See col. 3, lines 28-40 and col. 11, lines 47-62.

7. Sekidou does not show a water-resistant characteristic. However, as aforesaid, Hanada provides a water-resistant (waterproof) ink jet layer. Therefore, it would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to include a water-resistant property because Hanada attributes this property to porous ink-receiving mediums. See col. 3, lines 10-50 and col. 9, lines 20-30.

8. Addressing claims 7-8, Sekidou does not teach the thickness of the ink-receiving layers. Hanada provides at col. 9, lines 25-29, the ink-receiving layer is between 1 and 2000 microns, within Applicant's range of 10-500 microns. It would have been obvious to one of ordinary skill in the art to include a thickness range from 10-500 microns because Hanada provides this range is suitable for quality ink-receiving layers. See col. 9, lines 25-35.

9. Regarding claim 12, Sekidou does not teach a release layer composition including polyolefins. However, Bodager teaches useful release layers are well known in the art and include, for example, polyethylene and polypropylene. See col. 3, lines 9-25. It would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to provide

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polyethylene or polypropylene suitable to use for a release layer because Bodager provides such materials are well known in the art to provide a releasing functionality.

10. Claims 1 and 9-11 (new) are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,034,268 to Sekidou in view of USPN 5,631,076 to Hakomori et al. and further in view of USPN 6,197,409 to Bodager et al.

11. Sekidou provides for a laminated printing media consisting of three layers: a printing ink receiving surface, a support, and a primer bonding the first two. See col. 2, lines 43-49. The bonding layer is an adhesive. The bonding primer contains irregularities in the form of open and/or closed cells and pores, which provides the water passing property, as per instant claims 2 and 3. See col. 2, lines 61-68. This property would also permit the passage of water vapor.

12. Sekidou does teach a porous ink-receiving layer or a pore size range. Sekidou does not provide a pore size range as instant claims 9 and 10 provide from 0.01 –10 microns. Hakomori provides an ink thermal transfer sheet comprising a porous ink-receptive layer. The layer has a pore size in the range of 0.5-20 microns, falling in Applicant's claimed range for the purpose of providing good images for recording media. See col. 5, lines 37-60. It would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to include a pore size between 0.01-10 microns because Hakomori provides a suitable range of 0.5 to 20 microns as cited above for improvements in images.

13. Sekidou does not teach a release layer. Bodager, of analogous art, teaches an inkjet media which contains a substrate, water absorbing layer, and adhesive ink receiving layer. See col. 11, lines 55-56. It would have been obvious to one of ordinary skill in the art to use a release layer in addition to a substrate to provide the capability of transferring the print media to

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another substrate. Bodager shows the conventionality of transferring print media to permanent supports for the purpose of using in signs or banners. See col. 3, lines 28-40 and col. 11, lines 47-62.

14. Regarding instant claim 11, Sekidou does not teach an inorganic powder or polyolefin base resin in the ink-receiving porous sheet. However, Hakomori provides at col. 4, lines 16-30 such ingredients as pigments. The pigment usable for the ink-receiving porous polymer coating layer are not limited to specific materials. Nevertheless, the pigment is preferably selected from inorganic pigments (inclusive of powder), for example, zinc oxide, titanium dioxide, calcium carbonate, silicic acid, silicates, clay, talc, mica, calcined clay, aluminum hydroxide, barium sulfate, lithophone (zinc baryta white), and colloidal silica, organic synthetic pigments, for example, polystyrene, polyethylene, polypropylene. It would have been obvious to one of ordinary skill in the art to modify the laminate to further include inorganic powders or polyolefins because Hakomori provides these ingredients as conventional additives in a porous ink-receiving layer.

15. Claims 14-18 (new) is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,034,268 to Sekidou in view of USPN 5,631,076 to Hakomori et al. and of USPN 6,197,409 to Bodager et al. and further in view of USPN 5,647,935 to Hoshino et al. as applied to claim 1 above.

Sekidou does not teach a specific adhesive as instant claim 14. Hoshino teaches an ink jet recording medium that provides an adhesive. The adhesives can include sticking agents as well as adhesives including a variety of types such as acrylic resin, ethylene-vinyl acetate (EVA) resin. See col. 3, lines 52-65. It would have been obvious to one of ordinary skill in the

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art to modify the laminate of Sekidou to include acryl based adhesives because Hoshino teaches such material is a conventional material to use for ink jet recording media as cited above.

Sekidou does not provide the moisture permeability range as recited in claims 15-16 or the thickness adhesive range from 5 to 100 microns as required by instant claims 17 and 18. However, moisture permeability is a property that is inherent since the same materials are used, such property would inherently be expected to be the same absent any evidence to the contrary. To the thickness of adhesive, such property is a result-effective property and as such is merely optimizable. It would have been obvious to one of ordinary skill in the art to produce a thickness from 5 to 100 microns, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272. Thickness effects bond strength.

16. Claims 1 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,034,268 to Sekidou in view of USPN 6,159,605 to Hanada et al., USPN 6,197,409 to Bodager et al., and further in view of USPN 5,736,356 to Ueno et al.

17. Sekidou provides for a laminated printing media consisting of three layers: a printing ink receiving surface, a support, and a primer bonding the first two. See col. 2, lines 43-49. The bonding layer is an adhesive. The bonding primer contains irregularities in the form of open and/or closed cells and pores, which provides the water passing property, as per instant claims 2 and 3. See col. 2, lines 61-68. This property would also permit the passage of water vapor.

18. Sekidou does teach a porous ink-receiving layer. Hanada teaches an ink jet recording sheet providing a porous ink-receiving layer (see col. 3, lines 45-50 and col. 9, lines 20-30).

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Hanada discovered such a porous structure provides excellent image quality by having higher water and ink absorbency, ink setting, and waterproof properties. The ink-receiving layer is bonded via adhesive to layers of film or paper. See col. 3, lines 10-35. It would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to produce a porous ink-receiving layer because Hanada provides the improvement of higher water absorbency among other qualities listed at col. 3, lines 10-35.

19. Sekidou does not teach a release layer. Bodager, of analogous art, teaches an inkjet media which contains a substrate, water absorbing layer, and adhesive ink receiving layer. See col. 11, lines 55-56. It would have been obvious to one of ordinary skill in the art to use a release layer in addition to a substrate to provide the capability of transferring the print media to another substrate. Bodager shows the conventionality of transferring print media to permanent supports for the purpose of using in signs or banners. See col. 3, lines 28-40 and col. 11, lines 47-62.

20. Sekidou does not teach an adhesive layer having a foamed sheet as instant claim 19 requires. Ueno teaches a thermal transfer receiving sheet comprised of adhesives of polyolefin and acrylic types, containing bubbles to produce a foamed sheet (inherently have pores). See col. 21, line 60- col. 22, line 68. It would have been obvious to one of ordinary skill in the art to modify the laminate of Sekidou to include foamed adhesive layer because Ueno provides such a layer as a cushioning layer of high elasticity providing excellent printing and writing properties as explained by Ueno at col. 23, lines 15-20.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-8329.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

December 19, 2003



B. HAMILTON HESS
PRIMARY EXAMINER